



OPERATING INSTRUCTIONS & PARTS MANUAL

PORTABLE OIL-FIRED HEATERS

MODELS 2E510C, 2E511B, 3E218B & 3E219B

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READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR SERVICE THE DAYTON OIL-FIRED HEATERS. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!
RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.

Description

Dayton portable oil-fired heaters are designed to provide temporary heat. They must be used with adequate ventilation, 120V, 60 Hz electrical power, and kerosene, or No. 1 fuel oil.

THEORY OF OPERATION

1. There are four basic systems within the heater: the fuel system, air system, ignition system, and flame-out control system.
2. An air pump on one end of the motor shaft forces air through the air tube and out of the burner nozzle. The moving air creates a pressure differential in the burner head causing fuel to be drawn from the tank. The fuel and air mix is sprayed into the combustion chamber in a fine mist.

3. Additional air is supplied to the combustion chamber by a fan on the opposite end of the motor shaft. Ports around the burner head allow a portion of the air being moved by the fan to enter the combustion chamber, to support combustion. The remaining air is directed around and over the combustion chamber. This air mixes with the heated air from the combustion chamber and is ejected as a jet of clean, heated air.
4. The ignition system consists of an electronic ignitor and spark plug. The electronic ignitor creates a spark between the electrodes of the spark plug and ignites the fuel and air mixture within the combustion chamber. The spark plug fires constantly during operation.
5. A light sensitive cell detects a flame, which the flame-out control automatically trips if the flame fails, thereby causing the heater to shut down.

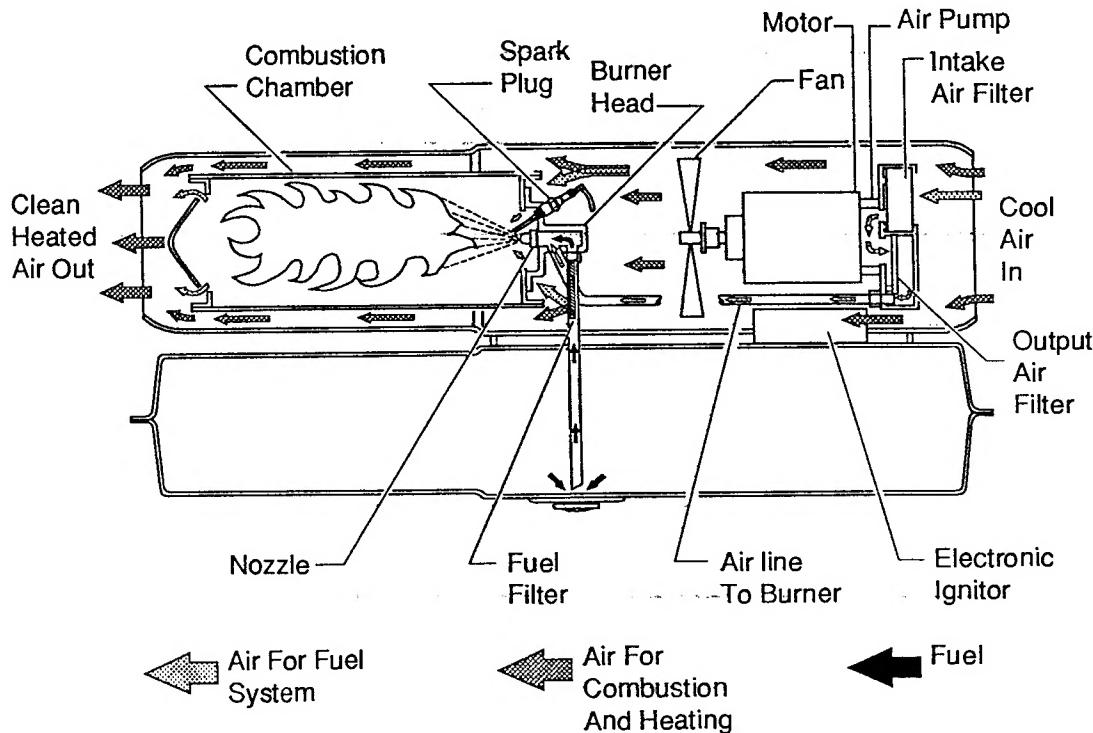


Figure 1 — Theory of Operation

Specifications

MODEL	2E510C	2E511B	3E218B	3E219B
Output rating (BTUH)	35,000	50,000	100,000	150,000
Fuel		Kerosene or No. 1 fuel oil		
Fuel tank capacity (U.S. gallons)	3.00	4.00	9.00	13.50
Fuel consumption (approx., U.S. gal. per hour)	0.26	0.37	0.74	1.10
Electric requirements		120 volts, 60 Hz (same all models)		
Amperage (during normal run)	2.78	2.90	5.50	5.00
Motor RPM	1725	1725	3450	3450
Hot air output (CFM)	168	166	481	648
Air pump pressure (PSI)	3.0	3.6	4.0	5.0
Shipping weight (approx. lbs.)	38	39	65	80
Heater weight without fuel (approx. lbs.)	35	36	55	77
Spark plug gap (in.)	.050/.060	.050/.060	.050/.060	.070/.080

General Safety Information

WARNING: IMPROPER USE OF THIS HEATER CAN RESULT IN SERIOUS BODILY INJURY, DUE TO HAZARDS OF FIRE OR EXPLOSION, CARBON MONOXIDE POISONING, BURN AND ELECTRICAL SHOCK!

WARNING: DO NOT USE HEATER WHERE GASOLINE, PAINT THINNER OR OTHER HIGHLY FLAMMABLE VAPORS ARE PRESENT. DO NOT USE GASOLINE, NAPHTHA, PAINT THINNERS OR OTHER VOLATILE FUELS. USE ONLY IN AREAS FREE OF FLAMMABLE VAPOR OR HIGH DUST CONTENT.

1. Use only in well-ventilated rooms. Provide ventilation of at least three square feet for each 100,000 BTUH of rating.
2. Do not attach duct work to front of heater.
3. Use only in accordance with local and electrical codes and ordinances.
4. Use only with electrical voltage and frequency specified on model plate.
5. Use only a properly grounded three-wire extension cord. Cord must be at least six feet long.
6. Make sure that combustible materials are at least eight feet from hot air outlet, and four feet from sides and top.
7. Fill fuel tank or move heater only when heater is unplugged. See FUELS under Operation.
8. Heater must be stable and level while hot or operating to prevent a fire caused by fuel leakage.
9. Do not move, handle or service a hot or operating heater.
10. When used with thermostat, heater may start anytime, so observe caution.
11. Keep children away from heater at all times. Never leave a heater plugged in without an adult present if children or animals are likely to be present.
12. Never use heater in living or sleeping areas.
13. Check reset button to be sure it is pushed in.
14. When heater is moved, it must be in a level position or fuel spillage may occur.

Unpacking

1. Remove all protective material which may have been applied to the heater for shipment.
2. Remove the heater from carton.
3. Check the heater for possible shipping damage. If any damage is found, immediately notify the dealer from whom you purchased the heater.

Assembly

(Does not apply to Models 2E510C, 2E511B.)

Some models are equipped with wheels and handles. These items are removed from the unit and can be found in the shipping carton along with mounting hardware. The wheels, axle and mounting hardware are in a plastic package. The following items should be included (see Figure 2, below).

1. Heater body
2. One front handle
3. One rear handle
4. One wheel support frame
5. One axle
6. Two wheels
7. Eight screws, #10-24 x 1 3/4 in.
8. Eight nuts, #10-24
9. Four cap nuts
10. One fuel cap

NOTE: The front and rear handles are alike.

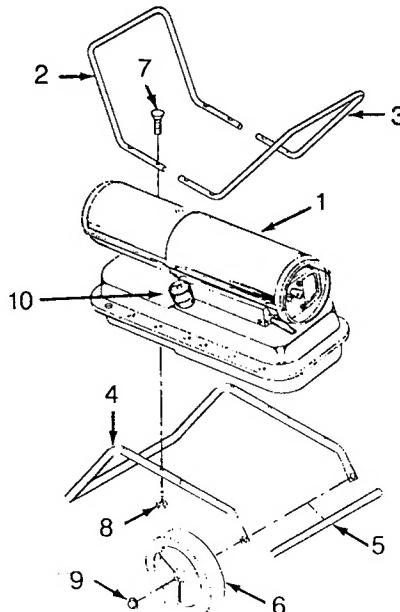


Figure 2 — Assembly Illustration for 3E218B & 3E219B

TOOLS REQUIRED

Medium Phillips screwdriver, 3/8" open or adjustable wrench and hammer.

Assembly (Continued)

Refer to Figure 2.

- Slide the axle (5) through the wheel support frame (4). Install the wheels (6) on the axle.

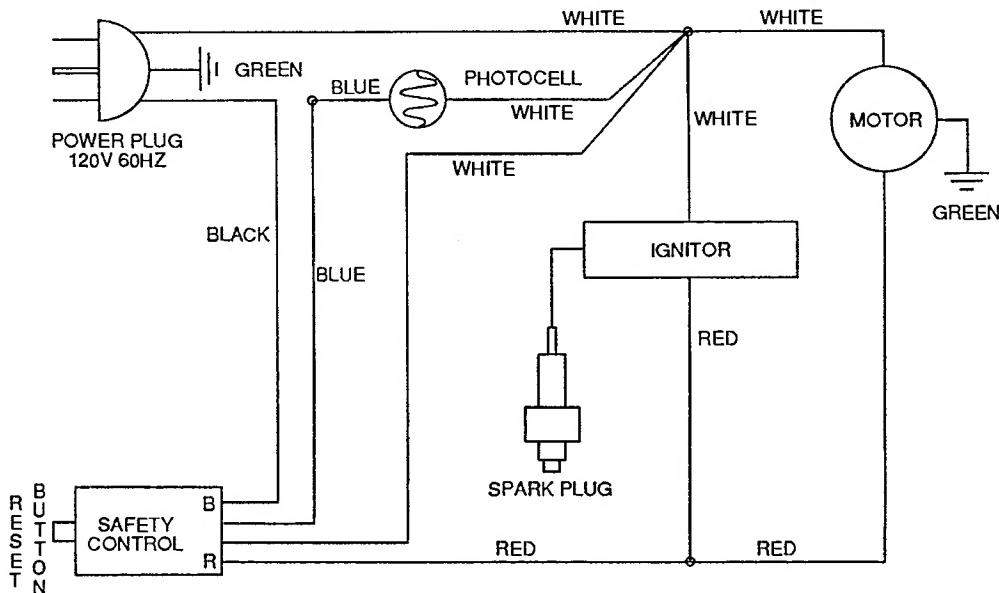
IMPORTANT: THE EXTENDED HUB OF THE WHEEL SHOULD BE POSITIONED TOWARD THE WHEEL'S SUPPORT FRAME. POSITION THE CAP NUTS (9) ON THE AXLE ENDS AND GENTLY TAP WITH A HAMMER TO SECURE.

- Position the heater on the wheel support frame

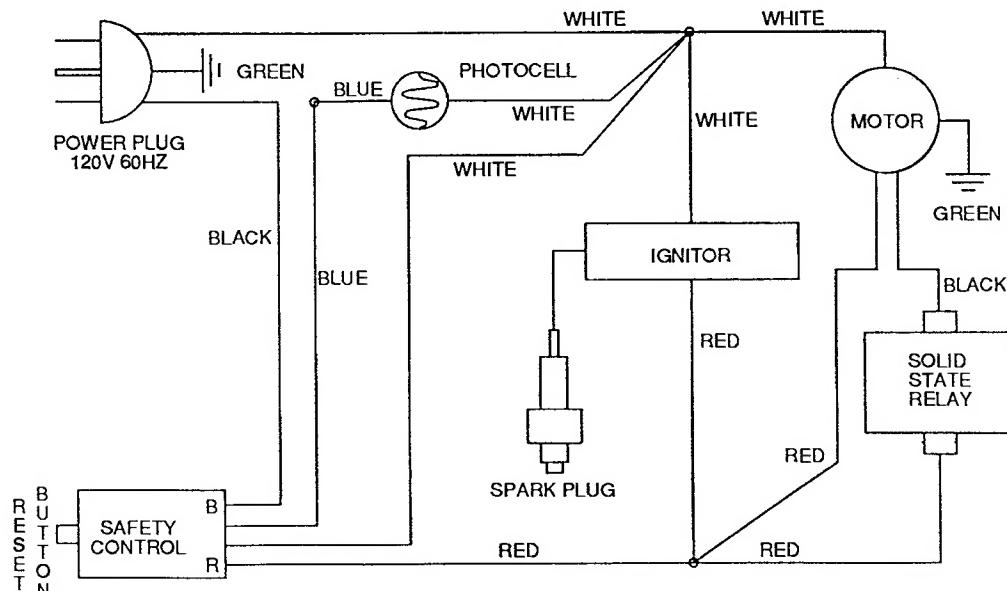
assembly with the motor end over the wheels.

- Use four screws (7) and nuts (8) to attach the front handle to the top of the tank flange. The screws will go through the front handle, the tank flange and the wheel support frame. Install the nuts, fingertight only.
- Using four screws (7) and nuts (8) install the rear handle (3) as outlined in Step 3.
- Tighten all nuts.

Installation



Wiring Diagram for Models 2E510C & 2E511B



Wiring Diagram for Models 3E218B & 3E219B

Operation

1. Make sure you have read and understood the General Safety Information, on page 2.
2. After assembly has been completed, position the heater in the area to be heated. Make sure that combustible materials are at least 8 feet from the hot air outlet, and 4 feet from sides and top.
3. Safely fill the fuel tank with kerosene or No. 1 fuel oil, as listed in the fuel guide below.
4. Check the reset button on the air intake end of the heater and make sure it is pushed in.
5. Plug the heater into any properly grounded 3-wire extension cord.

NOTE: As soon as the heater is plugged in, it will start. Should your heater not start immediately, check the Troubleshooting Chart, before proceeding.

NOTE: For automatic operation, use Model 2E535 or Model 2E817 thermostat.

6. Make sure adequate fresh air, and supervision, are supplied while the unit is operating.
7. To stop the unit, simply unplug the heater.

WARNING: USE ONLY IN WELL VENTILATED AREAS. SEE CHART BELOW.

FRESH AIR OPENING REQUIREMENTS

NOTE: If more than one heater is being used, provide additional fresh air.

HEATER SIZE	SQUARE FEET OPENING
35,000 BTU	1.2
50,000 BTU	1.5
100,000 BTU	3.0
150,000 BTU	4.5

Example: A 50,000 BTU heater will require a two car garage door raised two inches or a single garage door raised three inches. A window can also be used for ventilation. The 50,000 BTU heater requires at least two, thirty-inch windows raised four inches.

FUELS

1. Use only kerosene, or No. 1 fuel oil.
2. **Never** use gasoline, naphtha, paint thinners, alcohol or other volatile fuels.
3. Use of No. 2 fuel oil or No. 2 diesel oil may result in:
 - a) More frequent clogging of fuel filters and nozzles.
 - b) The formation of carbon on the spark plug.
4. Do not allow spark plug to get a carbon buildup on the electrodes. Carbon deposits can cause interrupted starting and raw fuel emission from the heater.

FUEL SOURCE

Fuels can be purchased at your local gasoline service station, or refer to the telephone directory under "Kerosene", to find another source.

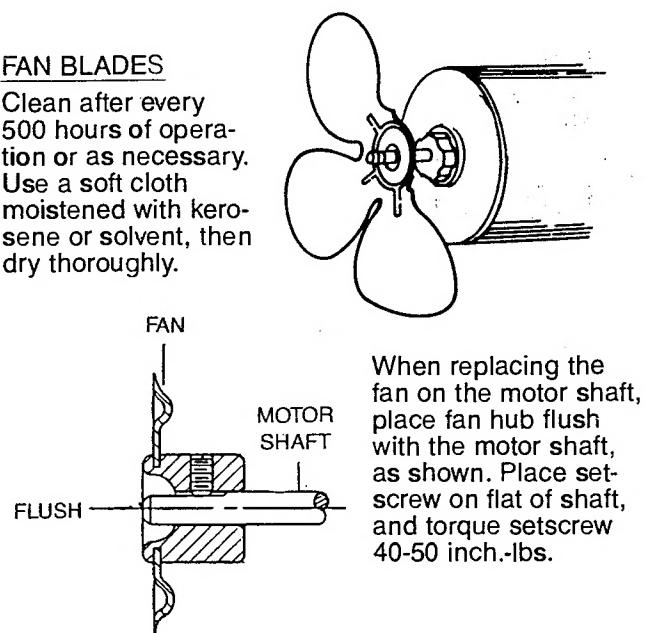
Maintenance

WARNING: ALWAYS UNPLUG HEATER BEFORE SERVICING.

CAUTION: When removing motor from the heater, always remove the fan first. The weight of the motor resting on the fan could damage fan pitch.

FAN BLADES

Clean after every 500 hours of operation or as necessary. Use a soft cloth moistened with kerosene or solvent, then dry thoroughly.

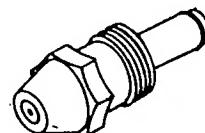
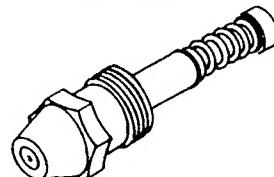


When replacing the fan on the motor shaft, place fan hub flush with the motor shaft, as shown. Place set-screw on flat of shaft, and torque setscrew 40-50 inch-lbs.

NOZZLE

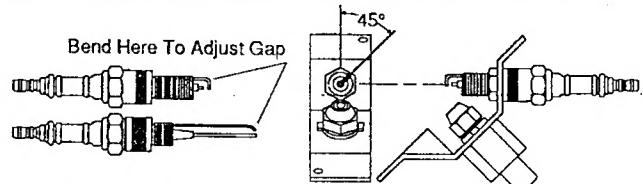
Clean at least once during heating season. Remove burner head. Use a socket wrench only to remove nozzle. Blow air through the face (outlet) end ONLY.

CAUTION: Protect nozzle face from damage while out of the heater.



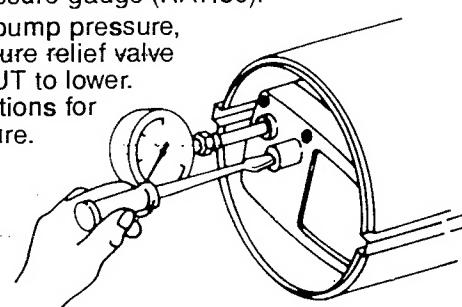
SPARK PLUG

After every 600 hours of operation, clean and adjust spark plug electrodes. Adjust gap or replace spark plug as required. See Specifications, for each model.



ADJUSTMENT OF PUMP PRESSURE

1. Remove the plug from the air filter housing and install the pressure gauge (HA1180).
2. To adjust the pump pressure, turn the pressure relief valve IN to raise, OUT to lower. See Specifications for correct pressure.
3. After adjustment, remove the gauge and replace the plug.

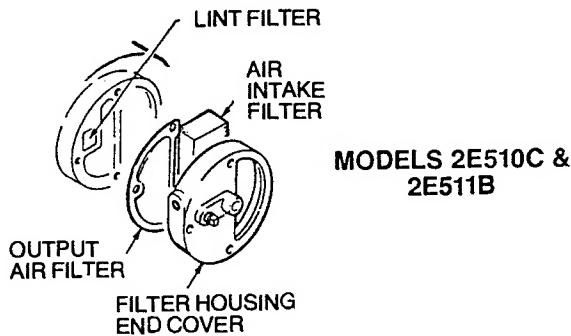


Maintenance

AIR FILTERS

Check frequently for dust film. To clean, remove the filter from housing, wash with mild detergent and dry thoroughly before replacing. Replace once each season.

CAUTION: Do Not oil the filter elements.

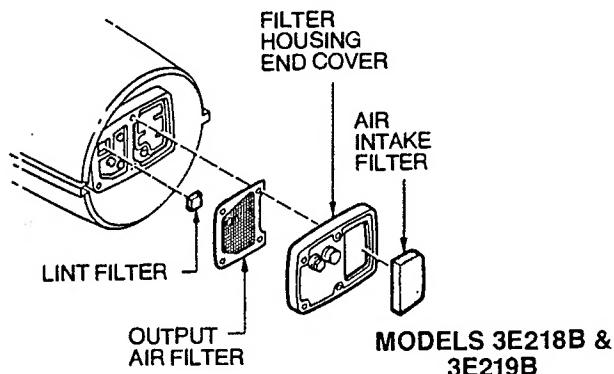
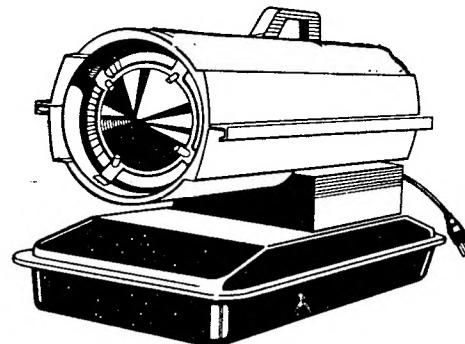


MODELS 2E510C &
2E511B

STORAGE

CAUTION: Store heater in a dry location, free of corrosive fumes and dust.

WARNING: ALWAYS UNPLUG HEATER BEFORE SERVICING.



MODELS 3E218B &
3E219B

FUEL TANK

Drain all fuel from tank. Clean and flush tank with clean fuel before storing.

AIR FILTERS

Remove and clean, or replace filters if necessary.

LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. Portable oil-fired heaters, Models 2E510C, 2E511B, 3E218B & 3E219B, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Dayton to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights which vary from state to state.

LIMITATION OF LIABILITY. To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to, and shall not exceed, the purchase price paid.

WARRANTY DISCLAIMER. Dayton has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in "LIMITED WARRANTY" above is made or authorized by Dayton.

PRODUCT SUITABILITY. Many states and localities have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, please review the product application, and national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some states do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Troubleshooting Chart

SYMPTOMS	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Electrical Troubles		
Motor does not start: thermostat (if used) is set to call for heat.	<ol style="list-style-type: none"> 1. No power or low voltage at heater. 2. Damaged motor or solid state relay (Models 3E218B & 3E219B only). 3. Thermostat damaged (if used). 4. Damaged safety control. 	<ol style="list-style-type: none"> 1. a. Be sure power is reaching heater; check condition of heater cord. Repair or replace as needed. b. Use extension cord with wires heavy enough to carry the electrical load of the heater. c. Be sure voltage at outlet is same as shown on heater instruction plate. 2. Check motor and relay; replace if damaged. 3. This is not a serviceable part; replace. 4. Replace safety control.
Mechanical Troubles		
Motor does not start: thermostat (if used) is set to call for heat.	<ol style="list-style-type: none"> 1. Fan obstructed by mechanical damage or dirt. 2. Pump binding. 	<ol style="list-style-type: none"> 1. a. Check for bent outer shell. b. Check for damaged fan; replace if damaged. c. Check for damaged motor mount. 2. Check for tight pump.
Fuel System Troubles		
Heater will not ignite, but motor runs for a short time.	<ol style="list-style-type: none"> 1. Fuel tank empty. 2. Water in fuel. 3. Wrong fuel. 4. Fuel filter clogged. 5. Nozzle plugged or damaged. 6. Very low temperature may cause fuel to thicken and not flow. 7. Dirty air filters. 8. Air leak at fuel filter. 	<ol style="list-style-type: none"> 1. Add fuel to tank. 2. Check for water in tank; clean tank and fuel filter if water is found. (Water in the tank will form globules in the bottom which you can see.) 3. Add fresh, clean fuel to tank. 4. Remove and wash in clean fuel. Blow dry and replace. 5. a. Clean by blowing compressed air through nozzle from outlet end of nozzle. b. Replace nozzle if cleaning does not solve the problem. 6. Move heater to warmer environment until fuel flows freely. 7. Be sure air filters are clean. 8. Check fuel filter for air leaks and for tightness of fit where it is connected to fuel line.
Ignition Troubles		
WARNING: DISCONNECT HEATER CORD! HIGH VOLTAGE!		
Heater will not ignite, but motor runs for a short time.	<ol style="list-style-type: none"> 1. Spark plug wire disconnected from plug or from terminal of ignitor. 2. Damaged spark plug. (Wrong gap, plug wet with fuel, or electrodes carbonized, or plug damage.) 3. Damaged ignitor. 	<ol style="list-style-type: none"> 1. Check at plug to be sure wire is tight. 2. a. Adjust electrode gap. See Specifications. b. Inspect plug for worn or eroded electrodes. c. Replace a damaged spark plug. 3. a. Remove the fan. b. Disconnect wire from spark plug, and check for spark; replace if no spark can be obtained.

Troubleshooting Chart (Continued)

SYMPTOMS	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Improper Fuel-Air Mixture (Not enough fuel)		
Heater burns, but puffs of smoke can be seen; heater will not burn steadily; heater burns with odor; heater smokes continuously.	<ol style="list-style-type: none"> 1. Heater running out of fuel; water condensation in fuel tank; wrong fuel. 2. Dirty air filters causing reduced air flow through nozzle, resulting in low fuel flow. 3. Fuel filter loose, dirty, or connection loose. 4. Dirty nozzle. 5. Fan blade. 6. Loose air output line connections between filter housing and burner. 7. Rubber sleeve on shank of nozzle is leaking. (Remote possibility.) 	<ol style="list-style-type: none"> 1. a. Shut heater OFF; check fuel tank. If you see globules of water in the bottom, drain and flush the tank and filter with clean fuel. b. Refill with fresh, clean fuel. 2. Remove and clean the air filters. Be sure air intake is not blocked. 3. a. Remove and wash fuel filter in clean fuel. b. Check condition of connection between fuel line and burner. c. Replace with new fuel line. 4. a. Remove and clean the burner head. b. Blow compressed air through nozzle from outlet end. c. Never use a drill, wire or other tool to open a nozzle passage. 5. Check for excessive dirt accumulation on fan blade which could be causing motor to slow down. 6. Be sure connections are tight. 7. If heater puffs intermittently, replace the rubber sleeve. (Handle parts carefully to prevent damage; assemble them carefully to preserve airtightness.)
Improper Fuel-Air Mixture (Too much fuel, or not enough air for amount of fuel being supplied)		
Flames come from front of heater.	<ol style="list-style-type: none"> 1. Dirty fan. 2. Air passageway through heater blocked by dirt or trash. 3. Fan loose or improperly located on shaft. 4. Bent or damaged fan. 5. High pump pressure. 6. Air intake blocked. 7. Fuel tank cap not venting properly. 	<ol style="list-style-type: none"> 1. Clean the fan. 2. Be sure the air passageway through the heater is clean. Keep the heater clean. 3. Check fan; fan hub should be flush with end of motor shaft. Position setscrew on flat of shaft and torque setscrew 40-50 in.-lbs. 4. Replace. Do not attempt repair of fan. 5. Check and adjust pressure. 6. Check filters. 7. Replace fuel cap.
Electrical System Troubles		
Heater cycles intermittently.	<ol style="list-style-type: none"> 1. Thermostat (if used) set too low. 2. Damaged thermostat (if used). 3. Low voltage causing tripout of safety control. 4. Damaged electrical supply or damaged connections. 	<ol style="list-style-type: none"> 1. Set thermostat to a higher temperature for more even operation. 2. Replace a damaged thermostat. 3. Check power line voltage. Use extension cord with proper size wire. 4. a. Be sure extension cord and heater service cord are in good condition, without intermittent open circuits. b. Check mechanical and electrical soundness of all wiring connections in the heater and service cord.

Troubleshooting Chart (Continued)

SYMPTOMS	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Heater ignites, but button of safety control pops out anyway. <i>or</i> heater ignites and motor runs but shuts down in less than a minute.	1. Damaged photocell. 2. Damaged safety control. 3. Damaged electrical connections in circuit through cell and control.	1. Check to see if face of cell is so dirty it can't "see" the flame; clean face if dirty. Replace with a cell that is known to be good. 2. Replace with a control that is known to be good. 3. Be sure all solder joints and wiring connections are secure. Check Wiring Diagram.
Safety control fails to trip when a no-flame condition exists.	1. Damaged safety control. 2. Photocell electrical leads shorted.	1. Replace with a new safety control. 2. Check photocell leads for shorted leads. Replace photocell if damaged.
Button on safety control won't stay in when pressed.	1. Resetting is tried too soon after the breaker trips. 2. Damaged safety control. 3. Photocell circuit open.	1. Wait 5 minutes and try again. 2. Replace with a new safety control. 3. Check photocell for open condition. Replace if damaged.

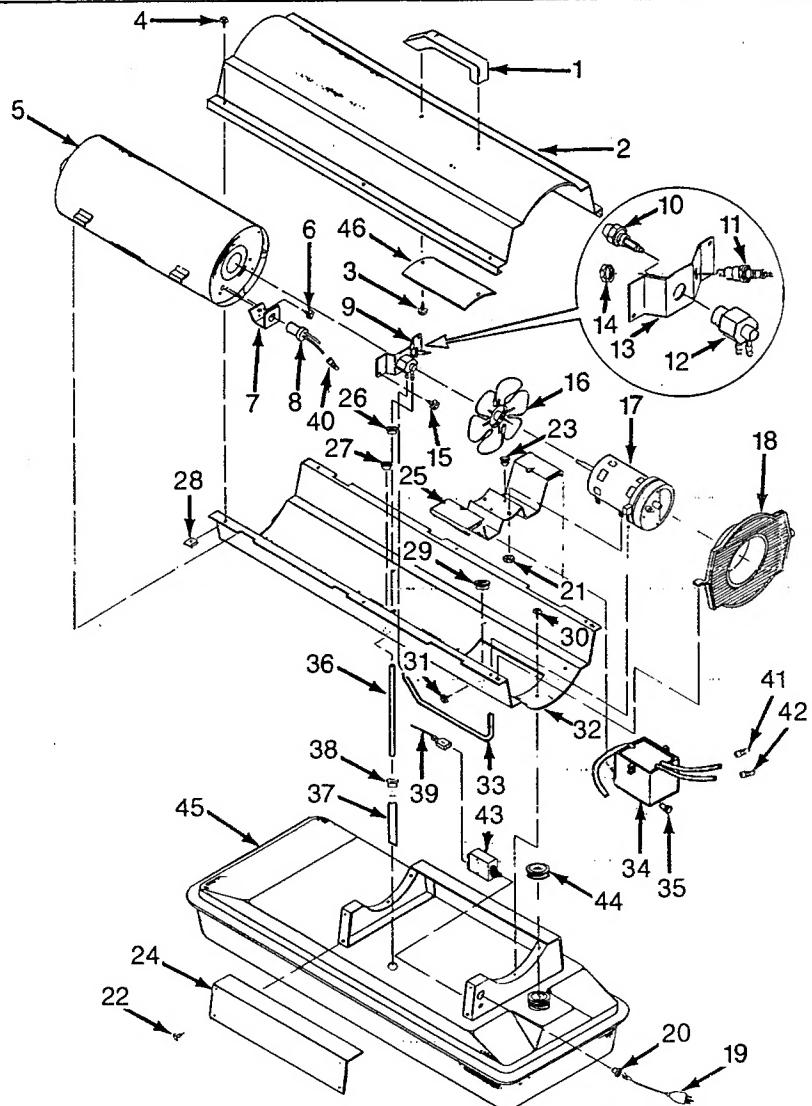


Figure 3 — Replacement Parts Illustration for Heater Models 2E510C & 2E511B

Replacement Parts List for Heater Models 2E510C & 2E511B

REF. NO.	DESCRIPTION	PART NO.	2E510C QTY.	2E511B QTY.
1	Handle	M51104-01	1	1
2	Upper shell	098511-34	1	1
3	Screw, #10-16 x 3/4"	M11084-29	2	2
4	Screw, #10-16 x 1/2"	M15823-27	6	6
5	Combustion chamber	{ 098512-05	1	—
6	Screw, #6-32 x 3/8"	098512-13	—	1
7	Photocell bracket	M10908-2	2	2
		M16660	1	1
8	Photocell assembly	M16656-4	1	1
9	Burner assembly	†	1	1
10	{ Nozzle	079744-01	1	—
	Nozzle	M50597	—	1
11	Spark plug	M29835-2	1	1
12	Nozzle adapter	079980-01	1	1
13	Bracket	097125-01	1	1
14	Nut, 14mm	M29824	1	1
15	Screw, #10-16 x 3/8"	M11084-26	2	2
16	Fan	M30884	1	1
17	Motor package assembly	†	1	1
18	Fan guard	M51105-01	1	1
19	Power cord	098219-06	1	1
20	Strain relief bushing	M11143-1	1	1
21	Hex lock nut	NTC-4C	2	2
22	Screw, #10-16 x 3/8"	M11084-26	2	2
23	Rubber bumper	M50631	2	2
24	Side cover	M50899-03AA	1	1
25	Motor bracket	098138-01	1	1
26	Bushing	M30865-02	1	1
27	Bushing	M25907	1	1
28	Clip nut	M11271-8	6	6
29	Bushing (wires)	M50104-02	1	1
30	Screw, #10-16 x 3/8"	M11084-26	6	6
31	Screw, #8-18 x 1/4"	M15823-37	1	1
32	Lower shell	098511-14	1	1
33	Rubber airline	M29652-01	1	1
34	Ignitor	098557-01	1	1
35	Screw, #10-16 x 3/4"	M11084-29	2	2
36	Fuel line	M29652-05	1	1
37	{ Fuel filter assembly	M50876-04	1	—
38	Fuel filter assembly	M50876-02	—	1
	Rubber bushing	M10990-3	1	1
39	Wire assembly (red, 6")	M16841-16	1	1
40	Wire connector (blue wires)	*	1	1
41	Wire connector (red wires)	*	1	1
42	Wire connector (white wires)	*	1	1
43	Flame out control	M50671-01	1	1
44	Fuel cap (includes gasket)	097702-01	1	1
45	{ Fuel tank	098513-23	1	—
46	Fuel tank	098513-20	—	1
	Heat shield	M51108-01	1	1
Δ	General Information Decal	098220-06	1	—
Δ	General Information Decal	098221-06	—	1

(*) Standard hardware item, available locally.

(†) Not available in assembly form. Refer to page 10 for Replacement Parts.

(Δ) Not shown.

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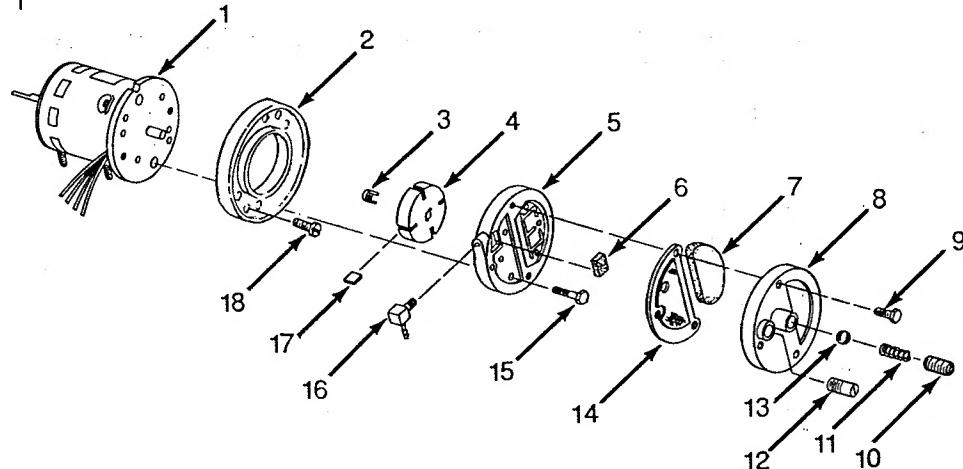


Figure 4 — Replacement Parts Illustration for Motor and Pump Assembly Models 2E510C & 2E511B

Replacement Parts List for Motor and Pump Assembly Models 2E510C & 2E511B

REF. NO.	DESCRIPTION	PART NO.	2E510C QTY.	2E511B QTY.	REF. NO.	DESCRIPTION	PART NO.	2E510C QTY.	2E511B QTY.
1	Motor	097073-01	1	1	10	Adjusting screw	M27694	1	1
2	Pump body	079975-01	1	1	11	Pressure relief spring	M10993-1	1	1
3	Insert	M22009	1	1	12	Plug	M22997	1	1
4	Rotor	M22456-1	1	1	13	Steel ball, 1/4" dia.	M8940	1	1
5	End pump cover	M29608	1	1	14	Output filter	M29612-01	1	1
6	Lint filter	M29632	1	1	15	Screw, #10-32 x 1"	M12461-31	6	6
7	Intake filter	M29633	1	1	16	Elbow, 90°	M50016	1	1
8	End cover filter	M29609	1	1	17	Blade	M8643	4	4
9	Screw, #10-32 x 1"	M12461-31	3	3	18	Screw, #10-32 x 1/4"	FHPF3-2C	2	2

Replacement Parts List for Heater Model 3E218B

REF. NO.	DESCRIPTION	PART NO.	QTY.	REF. NO.	DESCRIPTION	PART NO.	QTY.
1	Upper shell	098511-64	1	27	Bushing	M30865-02	1
2	Screw, #10-16 x 1/2"	M15823-27	8	28	Bushing	M50104-02	1
3	Combustion chamber assembly	098512-07	1	29	Screw, #10-16 x 1/2"	M11084-27	6
4	Photocell bracket	M16660	1	30	Clip nut	M11271-8	8
5	Screw, #6-32 x 3/8"	M10908-2	2	31	Screw, #8-18 x 1/4"	M15823-37	1
6	Photocell assembly	M16656-4	1	32	Fuel tank	098513-21	1
7	Burner assembly	†	1	33	Fuel cap (includes gasket)	097702-01	1
8	Screw, #10-16 x 1/2"	M11084-27	3	34	Flame out control	M50671-01	1
9	Fan	M51153-01	1	35	Strain relief bushing	M11143-1	1
10	Motor and pump assembly	†	1	36	Power cord	098219-07	1
11	Rubber bumper	M50631	2	37	Side cover	M51077-01AA	1
12	Motor mounting bracket	098138-02	1	38	Screw, #10-16 x 1/2"	M11084-27	4
13	Solid State relay	097061-01	1	39	Drain plug (includes O-ring)	M27417	1
14	Screw, #8-18 x 1/2"	M15823-39	2	40	Wire assy (red, 6")	M16841-16	1
15	Hex lock nut	NTC-4C	2	41	Wire assy (red, 14 1/2")	079010-06	1
16	Fan guard	M51114-01	1	42	Wire connector (blue wires)	*	1
17	Ignitor	098557-01	1	43	Wire connector (red wires)	*	1
18	Screw, #10-16 x 3/4"	M11084-29	2	44	Wire connector (white wires)	*	1
19	Fuel line	M51345-01	1	△	Thermostat control (optional)	2E535	1
20	Fuel filter	M51150-01	1	△	Thermostat control (optional)	2E817	1
21	Fuel line tube	M51151-01	1	△	General Information Decal	098223-06	1
22	Rubber bushing	M10990-3	1				
23	Airline	M50814-06	1				
24	Lower shell	098511-64	1				
25	Bushing	M30865-02	1				
26	Bushing	M30865-02	1				

(*) Standard hardware item, available locally.

(†) Not available in assembly form. Refer to page 12 for Replacement Parts.

(△) Not shown.

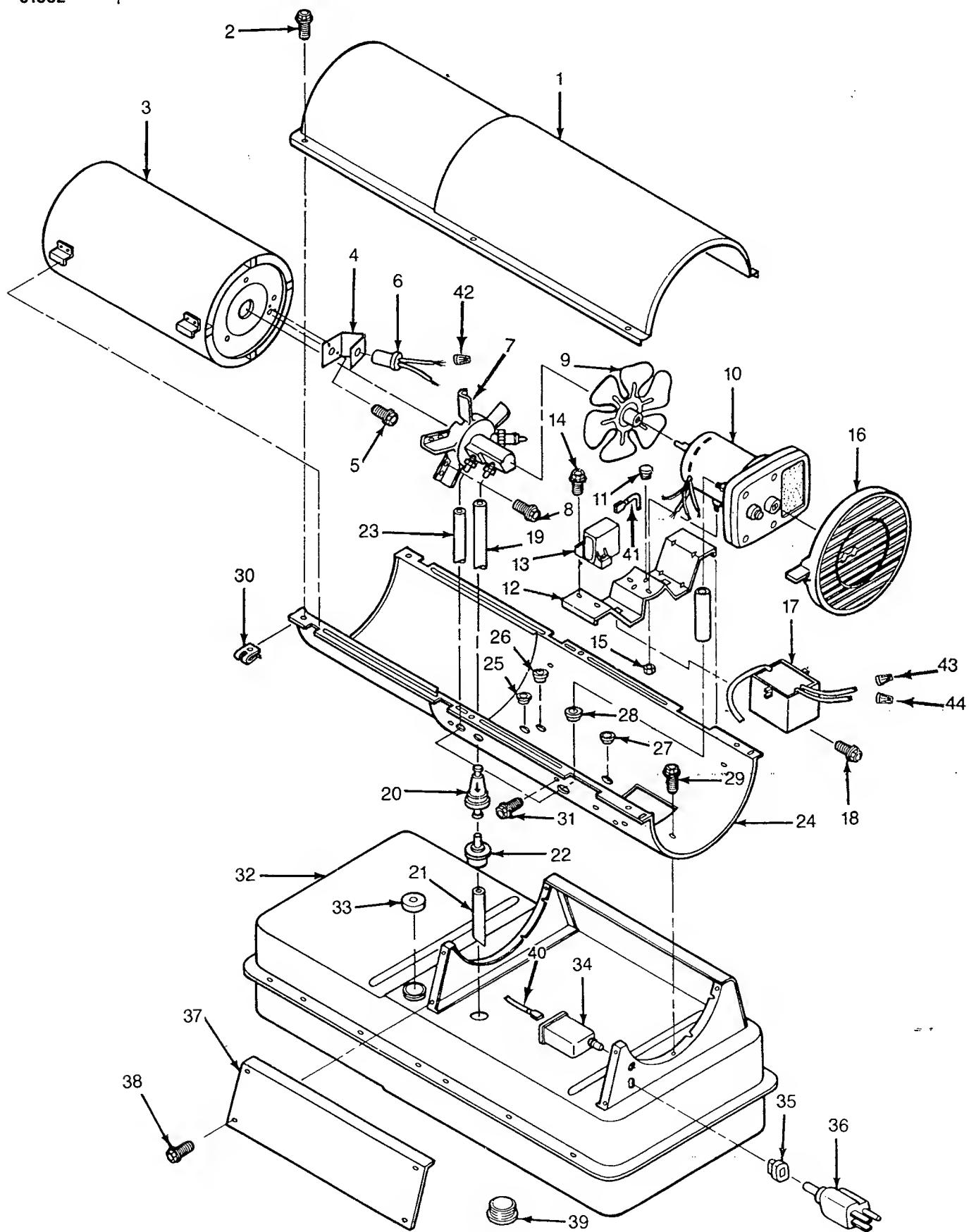
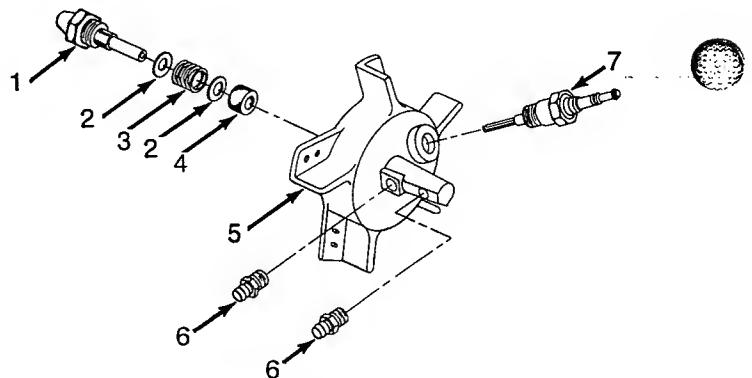


Figure 5 — Replacement Parts Illustration for Heater Model 3E218B

**Replacement Parts List for
Burner Head Assembly Model 3E218B**

REF. NO	DESCRIPTION	PART NO	QTY.
1	Nozzle	M51120-01	1
2	Nozzle washer	M10659-1	2
3	Nozzle spring	M10809-1	1
4	Nozzle sleeve	M8882	1
5	Burner head body	M50924-03	1
6	Barb fitting	M50820-02	2
7	Spark plug	M10962-2	1



**Figure 6 — Replacement Parts Illustration for
Burner Head Assembly Model 3E218B**

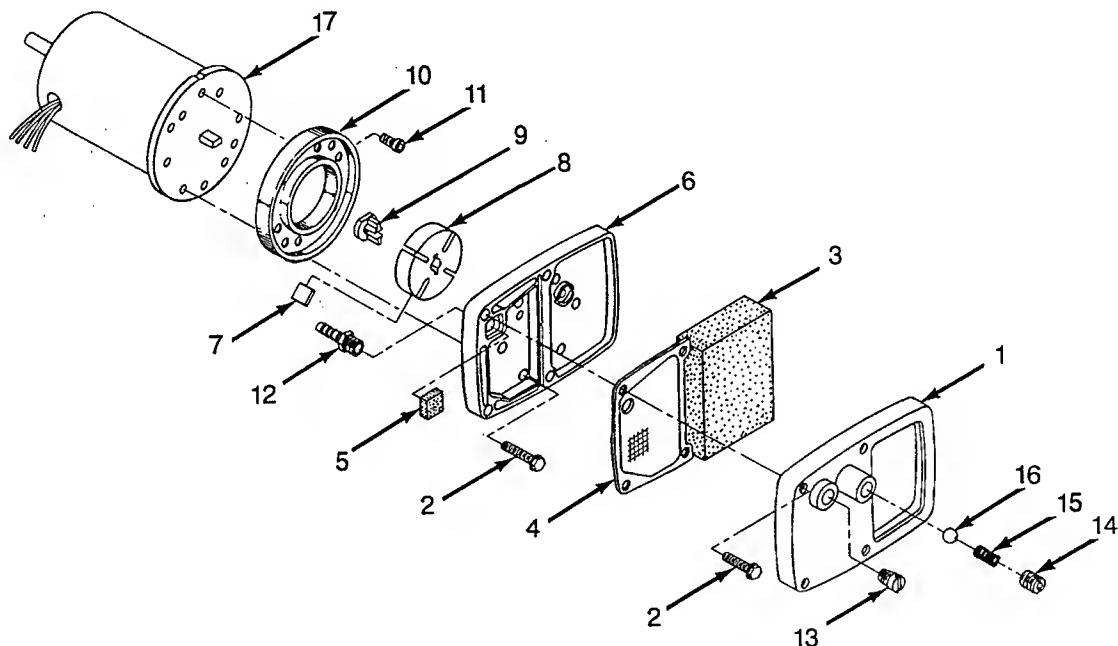


Figure 7 — Replacement Parts Illustration for Motor and Pump Assembly Model 3E218B

Replacement Parts List for Motor and Pump Assembly Model 3E218B

REF. NO.	DESCRIPTION	PART NO.	QTY.	REF. NO.	DESCRIPTION	PART NO.	QTY.
1	End filter cover	M16545	1	10	Pump body	079975-01	1
2	Screw, #10-32 x 1"	M12461-31	10	11	Screw, #10-32 x 1/4"	FHPF3-2C	2
3	Intake filter	M12179	1	12	Barb fitting	M50820-02	1
4	Output filter	M12244-1	1	13	Plug	M22997	1
5	Lint filter	M11637	1	14	Adjusting screw	M27694	1
6	End pump cover	M50545	1	15	Relief spring	M10993-1	1
7	Blade	M8643	4	16	Ball, 1/4" dia.	M8940	1
8	Rotor pump	M22456-1	1	17	Motor	097134-01	1
9	Rotor insert	M22009	1				

(*) Standard hardware item, available locally.

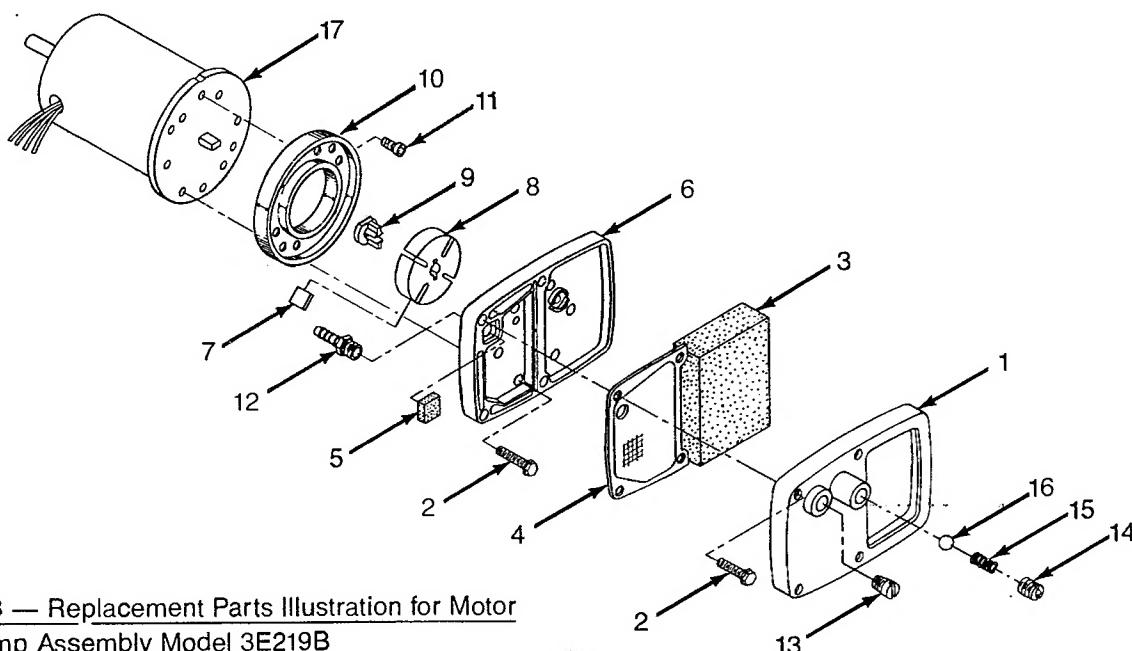


Figure 8 — Replacement Parts Illustration for Motor and Pump Assembly Model 3E219B

Replacement Parts List for Motor and Pump Assembly Model 3E219B

REF. NO.	DESCRIPTION	PART NO.	QTY.	REF. NO.	DESCRIPTION	PART NO.	QTY.
1	End filter cover	M16545	1	10	Pump body	079975-01	1
2	Screw, #10-32 x 1"	M12461-31	10	11	Screw, #10-32 x 1/4"	FHPF3-2C	2
3	Intake filter	M12179	1	12	Barb fitting	M50820-02	1
4	Output filter	M12244-1	1	13	Plug	M22997	1
5	Lint filter	M11637	1	14	Adjusting screw	M27694	1
6	End pump cover	M50545	1	15	Relief spring	M10993-1	1
7	Blade	M8643	4	16	Ball, 1/4" dia.	M8940	1
8	Rotor pump	M22456-1	1	17	Motor	097126-01	1
9	Rotor insert	M22009	1				

(*) Standard hardware item, available locally.

Replacement Parts List for Burner Head Assembly Model 3E219B

REF. NO.	DESCRIPTION	PART NO.	QTY.
1	Fuel line	M16790-12	1
2	Screen fuel filter	M19630	1
3	Flare nut	M50660-05	1
4	Male connector	079685-01	1
5	Barb fitting	M50820-02	1
6	Nozzle seal	M8882	1
7	Nozzle washer	M10659-1	2
8	Nozzle spring	M10809-1	1
9	Nozzle, 1.1 GPH	M18022	1
10	Spark plug	M10962-2	1
11	Burner head body	M50924-01	1

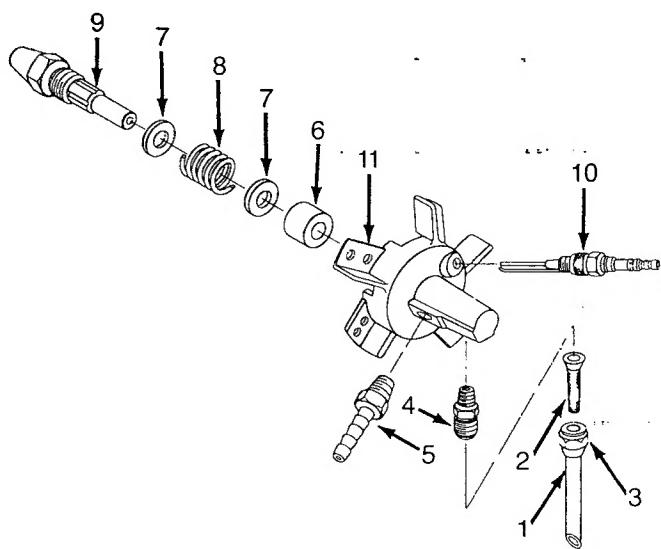


Figure 9 — Replacement Parts Illustration for Burner Head Assembly Model 3E219B

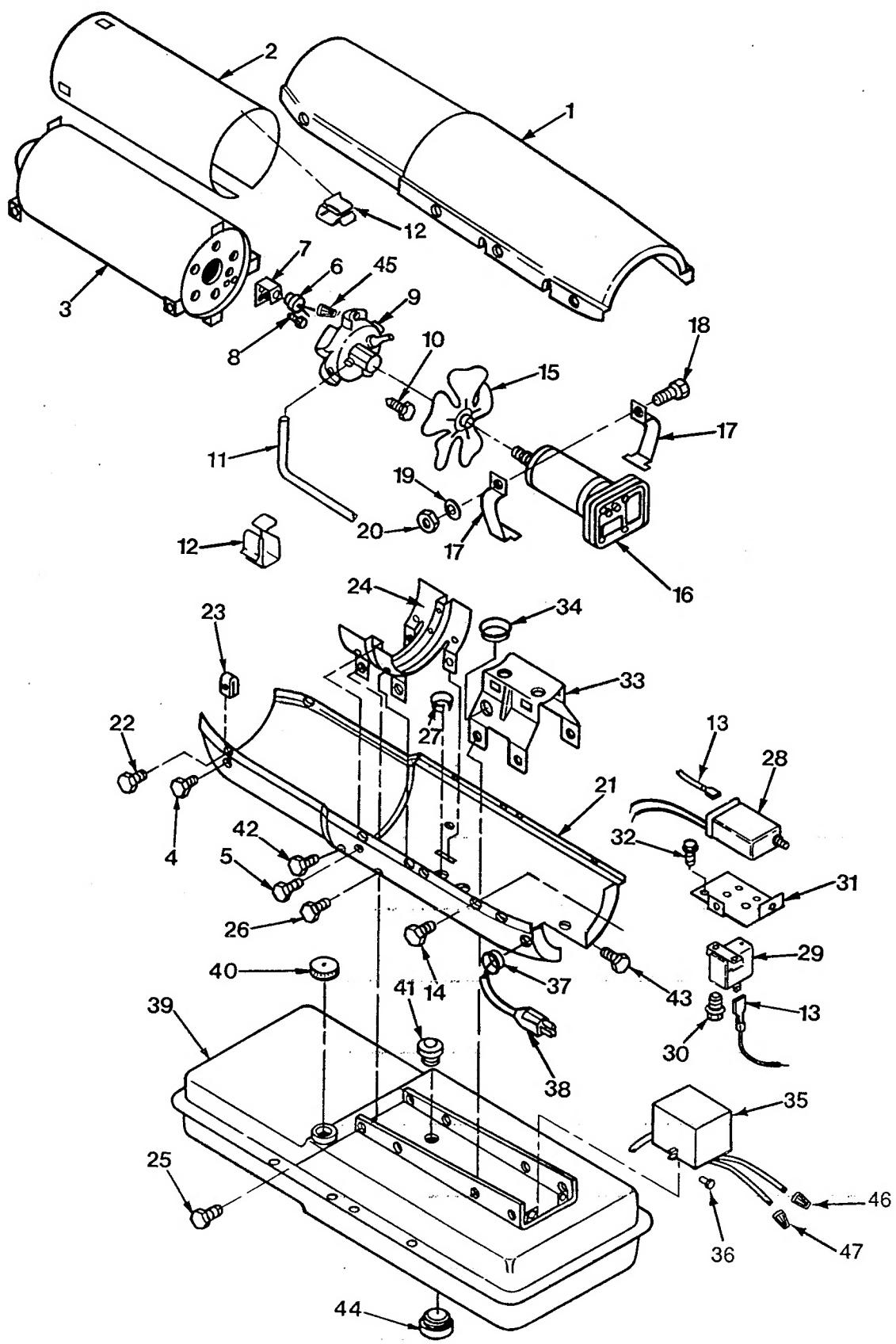


Figure 10 — Replacement Parts Illustration for Heater Model 3E219B

Replacement Parts List for Heater Model 3E219B

REF. NO.	DESCRIPTION	PART NO.	QTY.
1	Upper shell	098511-35	1
2	Heat deflector	098068-01	1
3	Combustion chamber assembly	098512-02	1
4	Screw, #10-16 x 3/4"	M11084-29	2
5	Screw, #10-16 x 3/4"	M11084-29	2
6	Photocell assembly	M16656-4	1
7	Photocell bracket	M16660	1
8	Screw, #6-32 x 3/8"	M10908-2	2
9	Burner head assembly, see Figure 9 for details	†	1
10	Screw, #10-16 x 1/2"	M11084-27	3
11	Airline tubing	M50814-03	1
12	Airline clip	M50873-01	9
13	Wire assembly (red, 6")	M16841-16	2
14	Screw, #10-16 x 1/2"	M11084-27	1
15	Fan	M17058	1
16	Motor & pump assembly, see Figure 8 for details	†	1
17	Motor clamp	M16661	4
18	Bolt, #1/4-20 x 1 1/2"	M51043-01	2
19	Lockwasher, 1/4"	WLM-4	2
20	Hex nut, 1/4-20	NPC-4C	2
21	Lower shell	098511-27	1
22	Screw, #10-16 x 1/2"	M11084-27	6
23	Clip nut	M11271-8	7
24	Shell support bracket	M12828	1
25	Screw, #10-16 x 1/2"	M11084-27	8
26	Screw, #10-16 x 3/4"	M11084-29	2
27	Shorty bushing	M50104-03	2
28	Safety control	M50671-01	1
29	Solid State relay	097061-01	1
30	Screw, #8-18 x 1/2"	M15823-39	2
31	Solid State relay bracket	097060-01	1
32	Screw, #10-16 x 1/2" (grounding)	M11084-27	1
33	Motor support bracket	M16645	1
34	Open/Closed bushing	M30865-04	1
35	Ignitor	098557-01	1
36	Screw, #10-16 x 3/4"	M11084-29	2
37	Strain relief bushing	M11143-1	1
38	Power cord	098219-07	1
39	Fuel tank	098513-08	1
40	Fuel cap	097702-01	1
41	Rubber bushing, fuel line into fuel tank	M10990-3	1
42	Screw, #10-16 x 1/2"	M11084-27	2
43	Screw, #10-16 x 1/2"	M11084-27	2
44	Drain plug, includes O-ring	M27417	1
45	Wire connector (blue wires)	*	1
46	Wire connector (red wires)	*	1
47	Wire connector (white wires)	*	1
△	Thermostat control (optional)	2E535	1
△	Thermostat control (optional)	2E817	1
△	General Information Decal	098224-06	1

(*) Standard hardware item, available locally.

(†) Not available in assembly form. Refer to page 13 for Replacement Parts.

(Δ) Not shown.

Replacement Parts List for Handle and Wheel Group Model 3E218B

REF. NO.	DESCRIPTION	PART NO.	QTY.
1	Front and rear handle	HA2203	2
2	Oval head screw, #10-24 x 1 3/4"	M12345-33	8
3	Wheel support frame	M12342-3	1
4	Hex nut, 10-24, torque lock	NTC-3C	8
5	Axle	M51015-01	1
6	Wheel	097896-01	2
7	Cap nut	M28526	2

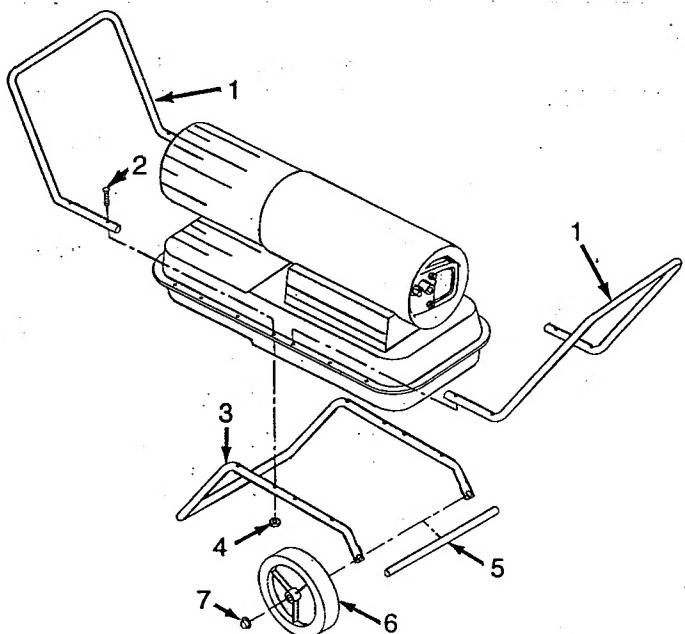


Figure 11 — Replacement Parts Illustration for Handle and Wheel Group Model 3E218B

ORDER REPLACEMENT PARTS BY CALLING TOLL FREE

1-800-323-0620 (Outside Illinois)

1-800-225-7149 (Inside Illinois)

Please provide following information:

- Model Number
- Serial Number (if any)
- Part Description and Number as shown in Parts List.

Address parts correspondence to:

Dayton Electric Mfg. Co.
1250 Busch Parkway
Buffalo Grove, IL 60089

Replacement Parts List for Handle and Wheel Group Model 3E219B

REF. NO.	DESCRIPTION	PART NO.	QTY.
1	Front handle	HA2204	1
2	Rear handle	HA2204	1
3	Wheel support frame	M12831-3	1
4	Oval head screw, 10-24 x 1 1/4"	M12345-33	8
5	Cap nut	M28526	2
6	Torque, lock nut #10-24	NTC-3C	8
7	Wheel	097896-01	2
8	Axle	M16801-2	1

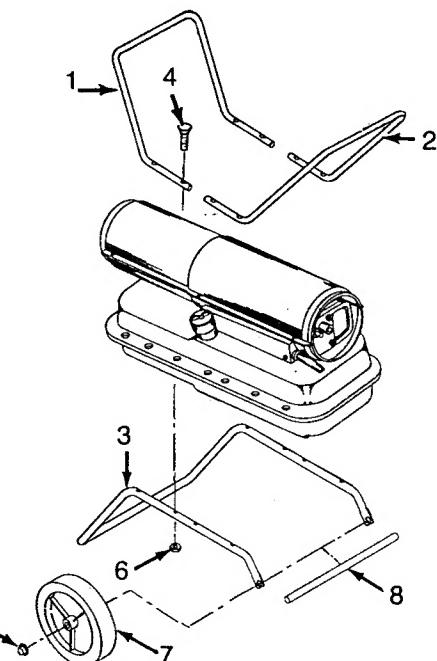


Figure 12 — Replacement Parts Illustration for Handle and Wheel Group Model 3E219B